

Introduction to Environmental Science (ESCI1301/CRN17016)

MW 12:00 -1:20 pm
Physical Science Building 208

Instructor:

Dr. Jie (Gail) Xu, Geological Sciences 319, jxu2@utep.edu
Office hours: Friday 11:00-12:00 or by appointment

Textbook:

Essential Environment, 5th edition, Withgott and Laposata (ISBN 978-0-321-98457-9)

Course Description:

This introductory course is designed to be a survey of various areas that fall under the umbrella of environmental science. The lectures will cover the following major modules: (1) Sustainability and scientific methods; (2) environmental policy, and environmental justice; (3) population and community ecology, (4) human population, food, and soil; (5) surface and ground water; (6) atmosphere and air pollution; (7) climate change; and (8) renewable and non-renewable energy. Additionally, we will discuss about biogeochemical cycles, and local/regional environmental problems.

Learning Goals:

Upon successful completion of this course through lectures, in-class activities, and small group discussions, I expect you to:

Knowledge-wise

- Comprehend the concept of sustainability and how it may affect our future
- Understand some of the basic concepts such as systems, cycles, flows, and feedbacks, that characterize and govern the structure, function, and interactions of the atmosphere, the hydrosphere, the lithosphere, as well as the biosphere
- Refine skills in analysis and evaluation of complex systems and be familiar with scientific methods by which knowledge is obtained and advanced in environmental science
- Demonstrate a solid scientific base when discussing or analyzing environmental policies or environment-related news at various levels

Skill-wise

- Grow in scientific reasoning skills involving inquiry, evidence evaluation, inference and argumentation that support the formation and modification of concepts and theories about the natural and social worlds
- Be effective communicators of scientific information in oral, graphical, and spatial forms

Grading Policies:

The final grade is based on the total score of the following components: one final exam, two mid-term exams, and in-class quizzes. Extra credit options may become available through the course. The purpose of these extra-credit options (if available) is to encourage you to dig more

into the current environmental issues either regionally or globally that are rooted in Earth and environmental science.

One final exam (35%)

Two mid-terms (20%×2)

In-class quizzes (25%)

> 90% - A; 89-80% - B; 79-70% - C, 69-60% - D; < 60% - F.

Notes:

- For most classes, we will try to have in-class quizzes (in the format of 1-2 multiple choice questions). **A laptop, tablet or smartphone is required to participate in these quizzes** (laptops can be loaned through the library service if needed). In-class quizzes will count towards 25% of your final grade. From all the quizzes given in the semester, 25% of the (low) scores will be dropped.
- For the two midterms and one final, Scrantons will be needed (#:MMS011157404). They are available at the UTEP bookstore. Please get them ahead of time.
- **Exam policy**: No make-up exams will be given for reasons other than critical illness (documentation required), official University businesses (instructor's prior approval and documentation required) or extreme emergencies (documentation required).
- **Honor codes**: academic integrity is the fundament principle for all UTEP students, staff and faculty. Refer to the UTEP Student Handbook where scholastic dishonesty is defined (<http://sa.utep.edu/osccr/academic-integrity/>). Proven violations of these detailed regulations may result in any of the consequences outlined in the Handbook.

Drop date:

The UTEP Spring 2017 drop deadline is Nov 3, 2017. Any drop requests after this date will not be approved by the College of Science.

Incomplete grades:

All grades of Incomplete (I) must be accompanied by an Incomplete Contract that has been signed by the instructor of record, student, departmental chair, and the dean. Although UTEP will allow a maximum of one year to complete this contract, the College of Science requests it be limited to one month based upon completion data. An grade of Incompletion is only used in exceptional circumstances.

Students with Disabilities:

If you have a disability and may need accommodations in this class you are encouraged to contact the Center for Accommodations and Support Services (CASS) at 915-747-5148 or cass@utep.edu within the first two weeks of class. Here is the link to the resources available to students with disabilities <http://admin.utep.edu/Default.aspx?tabid=61021&submenuheader=2>.

Military Service:

If you are a military student with the potential of being called into military service and/or training during the course of the semester you are encouraged to contact the instructor regarding these matters.

<i>Week</i>	<i>Date</i>	<i>Topics</i>	<i>Textbook</i>
1	Aug 28 Aug 30	Introduction, sustainability, scientific method	Ch 1
2	Sept 4 Sept 6	<i>Labor Day - No class</i> Environmental systems, biogeochemical cycles	Ch 2
3	Sept 11 Sept 13	Environmental policy, environmental justice	Ch 5
4	Sept 18 Sept 20	Biodiversity and population ecology	Ch 3
5	Sept 25 Sept 27	Community ecology	Ch 4
6	Oct 2 Oct 4	Human Population Mid-Term 1	Ch 6
7	Oct 9 Oct 11	Soil, agriculture and food	Ch 7, 9
8	Oct 16 Oct 18	Environmental health and toxicology Fresh surface water	Ch 12
9	Oct 23 Oct 25	Groundwater, oceans and coasts	Ch 12
10	Oct 30 Nov 1	Atmosphere and air pollution	Ch 13
11	Nov 6 Nov 8	Climate-related natural disasters Mid-Term 2	handout
12	Nov 13 Nov 15	Global climate change	Ch 14
13	Nov 20 Nov 22	Mining Non-renewable energy	Ch 11 Ch 15
14	Nov 27 Nov 29	Renewable energy	Ch 16
15	Dec 4 Dec 6	Waste management Review with study guide	Ch 17 handout
16	Dec 11 Dec 13	Final Exam Week	